

## **REMARKS**

In the final Office Action, the Examiner rejected claims 9 and 59 under 35 U.S.C. § 103(a) as unpatentable over Jpn. J. Appl. Phys. Vol. 31 pp. 2155–64 (1992) (“*Schadt*”). The Examiner also rejected claims 9 and 59 under the judicially created doctrine of obviousness-type double patenting over claim 3 of U.S. Patent 6,091,471 and over claim 9 of U.S. Patent 6,295,111. Because *Schadt* fails to render claims 5 and 59 obvious, Applicants respectfully traverse the rejections of these claims.

### **Amendment**

Applicants request amendment to claim 9 to more particularly recite Applicants’ invention. Applicants also propose adding new dependent claims 60–65 to ensure protection for additional aspects of the Applicants’ invention. Accordingly, claims 9 and 59-65 would be pending upon entry of this Amendment.

### **Rejection under § 103(a)**

To establish a *prima facie* case of obviousness under §103(a), each of three requirements must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine references or modify a reference. (See MPEP § 2143.) Second, a reasonable expectation of success must exist that the proposed modification will work for the intended purpose. (See *id.*) Moreover, both of these requirements must “be found in the prior art, not in applicant’s disclosure.” (*Id.*) Third, the reference or references, taken alone or in combination, must disclose or suggest every element recited in the claims. (See MPEP §2143.03.)

Proposed claim 9 recites, *inter alia*:

A method of manufacturing a liquid crystal display,  
comprising the steps of:

providing a first alignment layer on a first substrate;

...

providing a second alignment layer on a second substrate;

exposing said second alignment layer to light in an oblique  
direction, such that said second alignment layer has a pretilt  
angle and a pretilt direction associated therewith, the pretilt  
angle being controlled by photo-energy . . . .

In contrast, *Schadt* discloses a liquid crystal (LC) aligning mechanism that occurs  
when polymerizing photopolymers with linearly polarized light. (*Schadt*, p. 2155, col. 1,  
¶ 2.) *Schadt* further discloses, "The dried films were **isotropically** prepolymerized by  
exposure at  $\lambda \cong 320$  nm to 1 J/cm<sup>2</sup> of unpolarized UV light." (*Schadt*, p. 2157, col. 2,  
¶ 1.) The use of isotropic prepolymerization was found to improve the aligning stability  
of the final films. (*Id.*) In one embodiment, a linear photopolymerization (LPP)  
experiment employs spin coating substrates with a PVMC solution. (*Id.*, p. 2157, col. 1,  
¶ 2.) The coated substrate is dried, prepolymerized by *unpolarized* light, and the  
prepolymerized film is then exposed to linearly polarized UV light. (*Id.*, p. 2157, col. 2, ¶  
1-2.)

There is no disclosure or suggestion in *Schadt*, however, of, "exposing said  
second alignment layer to light in an oblique direction, such that said second alignment  
layer has a pretilt angle and a pretilt direction associated therewith, *the pretilt angle  
being controlled by photo-energy*," as recited in proposed claim 9.

*Schadt's* disclosure of isotropically prepolymerizing a coated substrate with  
*unpolarized* light to improve aligning stability is not the same as "exposing said second  
alignment layer to light in an oblique direction, such that said second alignment layer

includes a *pretilt angle* and a *pretilt direction* associated therewith, *the pretilt angle being controlled by photo-energy*,” as recited in proposed claim 9. *Schadt* simply does not disclose or suggest at least a “pretilt angle,” a “pretilt direction,” or “the pretilt angle being controlled by photo-energy,” as recited in proposed claim 9.

Moreover, according to *Schadt*, “LPP-PVMC-aligning layers induce tilt dislocations which are either caused by zero surface tilt angles  $\theta_1 = \theta_2 = 0^\circ$  at the two LCD substrates and/or by splay deformations due to  $\theta_1 \cong -\theta_2$ .” (*Schadt*, p. 2154, col. 2, ¶ 3.) That is, the LPP material of *Schadt*, which the Examiner alleges corresponds to “exposing said second alignment layer to light in an oblique direction” clearly does not include a “pretilt angle” as recited in claim 9. *Schadt* also necessarily fails to disclose or suggest, “the pretilt angle being controlled by photo-energy,” as recited in proposed claim 9.

Applicants also do not agree that it would be obvious to modify *Schadt* as alleged by the Examiner nor has the Examiner cited any art to support this statement. At most, the Examiner alleges, “such modification to the *Schadt* would have been obvious to one [skilled] in the art as stated in the previous office action.” (November 5, 2003 Office Action at 5.) Yet a bald proclamation that it is obvious to modify a method does not establish a *prima facie* case of obviousness.

At least because *Schadt* fails to disclose or suggest a combination including each claim element, and because there is neither any motivation to modify *Schadt* to obtain the claimed combination, nor any reasonable expectation of success from doing so, Applicants assert proposed claim 9 is allowable over *Schadt*. Applicants further assert claim 59 is likewise allowable at least because of its dependence from allowable claim

9. Applicants also respectfully request allowance of proposed new claims 60–65, because of their dependence from claim 9.

**Rejection under double patenting**

The Examiner also rejected claims 9 and 59 under the judicially created doctrine of obviousness-type double patenting over claim 3 of U.S. Patent 6,091,471 and over claim 9 of U.S. Patent 6,295,111. According to the Examiner, no Terminal Disclaimers were received with the July 21, 2003 Amendment. Without acceding to the merits of the Examiner's obviousness-type double patenting allegations, Applicants concurrently file Terminal Disclaimers with this paper. Applicants respectfully request immediate notification from the Examiner if no Terminal Disclaimers are received with this Reply.

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 9 and 59–65 in condition for allowance. Applicants submit that the proposed amendments of claim 9 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner. Therefore, this Amendment should allow for immediate action by the Examiner. It is respectfully submitted that the entering of the Amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this

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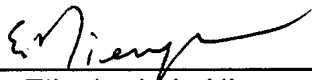
Amendment, the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: February 4, 2004

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